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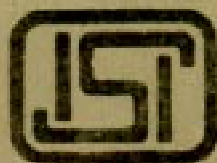
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SPECIFICATION FOR
EDIBLE SUNFLOWER SEED GRITS

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SPECIFICATION FOR EDIBLE SUNFLOWER SEED GRITS

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Indian Standard

SPECIFICATION FOR EDIBLE SUNFLOWER SEED GRITS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 29 January 1979, after the draft finalized by the Nutrition Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Oilseeds have attracted considerable attention as a source of providers of not only fat, but of protein also for human populations. One such oilseed which is a recent entrant in India is the sunflower seed, and specifications have been issued for screw-pressed and solvent extracted edible flours of this seed (IS : 8677-1977*). Sunflower seed kernels are marketed in the form of grits which have appetising flavour and crunchy texture. The grits are the kernels broken to appropriate size for use in processed foods, such as chocolates, baked foods like cakes and buns, toppings for ice-cream, etc. This standard is intended to provide norms for use both by the producers and users of sunflower seed grits for edible use.

0.3 Sunflower seed grits have a limited shelf life and they get rancid after a long period of storage. They should generally not be stored for a period of more than 30 days from the date of their production from the fresh kernel.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for edible sunflower seed grits obtained from the kernels of dehulled sunflower seeds.

*Specification for edible sunflower seed flour (solvent extracted).

†Rules for rounding off numerical values (*revised*).

2. REQUIREMENTS

2.1 Description — The material shall be made from fresh and cleaned sunflower kernels. It shall be in the form of grits, which shall be white to cream in colour. It shall be free from foreign matter including undecorticated sunflower seed, sunflower hulls and integuments of kernels. It shall be free from insects, rodent hair and excreta, fungal infection, objectionable odour and rancid taste. It shall not contain added flavouring or colouring agents or any other extraneous matter.

NOTE — The appearance, taste and odour shall be determined by organoleptic tests.

2.2 The material shall be of such fineness that not more than 5 percent by mass shall be retained on a 3.35 mm IS Sieve (*see* IS : 460-1962*) and not less than 95 percent by mass shall be retained on a 1.77 mm IS Sieve.

2.3 The material shall be manufactured in premises and equipment maintained under hygienic conditions (*see* IS : 2491-1972†).

2.4 The material shall also comply with the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR EDIBLE SUNFLOWER SEED GRITS

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO APPENDIX OF IS : 4684-1975*
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, <i>Max</i>	8.0	B
ii)	Crude protein ($N \times 6.25$) (on dry basis), percent by mass, <i>Min</i>	20.0	C
iii)	Total ash (on dry basis), percent by mass, <i>Max</i>	4.0	D
iv)	Acid insoluble ash (on dry basis), percent by mass, <i>Max</i>	0.2	E
v)	Fat (on dry basis), percent by mass, <i>Min</i>	50.0	F
vi)	Acid value of extracted fat, <i>Max</i>	6.0	G
vii)	Crude fibre (on dry basis), percent by mass, <i>Max</i>	4.0	H
viii)	Aflatoxin, $\mu\text{g/kg}$, <i>Max</i>	30.0	J

*Specification for edible groundnut flour (expeller pressed) (*first revision*).

*Specification for test sieves (*revised*).

†Code for hygienic conditions for food processing units (*first revision*).

2.5 Microbiological Limits — The edible sunflower grit shall be tested periodically to comply with the limits given in Table 2.

**TABLE 2 MICROBIOLOGICAL LIMITS FOR EDIBLE
SUNFLOWER SEED GRIT**

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO
(1)	(2)	(3)	(4)
i)	Total bacterial count per g, <i>Max</i>	50 000	IS : 5402-1969*
ii)	Coliform bacteria count per g, <i>Max</i>	10	IS : 5401-1969†
iii)	<i>Salmonella</i> bacteria	Nil	IS : 5887 (Part III)-1976‡

*Method for standard plate count of bacteria in foodstuffs.

†Methods for detection and estimation of coliform bacteria in foodstuffs.

‡Methods for detection of bacteria responsible for food poisoning: Part III Isolation, identification of *Salmonella* and *Shigella* (first revision).

3. PACKING AND MARKING

3.1 Packing — The material shall be packed in clean tinplate containers preferably hermetically sealed or sealed under nitrogen or vacuum.

3.2 Marking — The following particulars shall be marked or labelled on each container:

- Name of the material;
- Name and address of the manufacturer;
- Batch or code number;
- Net mass;
- Particle size (2.2); and
- Any other details required under Standards of Weights & Measures (Packaged Commodities) Rules, 1977.

3.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING

4.1 Representative samples of the material shall be drawn and tested for conformity to this standard as prescribed in 5 of IS : 5315-1978*.

5. TESTS

5.1 Tests shall be carried out as prescribed in **2.1, 2.2, 2.3** and Tables 1 and 2.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1977†) shall be employed in tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the test results.

*Methods of sampling for milled cereals and pulses products (*first revision*).

†Specification for water for general laboratory use (*second revision*).

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INDIAN STANDARDS

ON

NUTRITION

IS:

- 3137-1974 High protein mixes for use as food supplement (*first revision*)
- 4684-1975 Edible groundnut flour (expeller pressed) (*first revision*)
- 4874-1968 Cottonseed flour (expeller pressed) (*first revision*)
- 4875-1975 Edible groundnut flour (solvent extracted) (*first revision*)
- 4876-1968 Cottonseed flour (solvent extracted) (*first revision*)
- 6108-1971 Edible sesame flour (solvent extracted)
- 6109-1971 Edible sesame flour (expeller pressed)
- 7021-1973 Protein rich foods supplements for infants and preschool children
- 7481-1974 Method for determination of protein efficiency ratio (PER)
- 7482-1974 Protein-based beverages
- 7487-1974 Protein rich biscuits
- 7835-1975 Edible low-fat soya flour
- 7836-1975 Edible medium-fat soya flour
- 7837-1975 Edible full-fat soya flour
- 8211-1976 Edible soya protein isolate
- 8212-1976 Edible groundnut protein isolate
- 8220-1976 Protein rich concentrated nutrient supplementary foods
- 8222-1976 Edible leaf protein concentrate
- 8664-1977 Edible coconut flour (expeller pressed)
- 8665-1977 Protein fortified bread
- 8676-1977 Edible coconut flour (solvent extracted)
- 8677-1977 Edible sunflower flour (solvent extracted)
- 8678-1977 Vegetable protein-based yoghurt (vegetable curds)